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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|------------------------|------------------|
| 10/085,924 | 02/28/2002 | Yoon Kean Wong | 035451-0178(3724.Palm) | 1157 |

26371 7590 01/24/2006

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EXAMINER

MENGISTU, AMARE

ART UNIT PAPER NUMBER

2673

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,924

Applicant(s)

WONG ET AL.

Examiner

Amare Mengistu

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8,12,14,16-20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,12,14,16-20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date, _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-8,12,14,16-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification as originally filed does not disclose the newly recited claim limitations of claims 1 and 14 the last 2 lines “***display drivers capable of updating screen resolution and screen display size based on the current expansion of the display screen***” and “***the processor is configured with display drivers to update display resolution and screen display size based upon the current expansion state of the flexible and expandable display***”. The specification as first filed has failed to teach one skill in the art how to make or use the above recited claim limitations.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “**web page**” (claim 5); “**drop down menu**” (claim 6); “**thumbnail image**” (claim 7) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 12, 8, 14, 16-19, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hatano Takahiro** (JP 2001-091268) in view of **Koenig** (2002/0021258A1).

In regard to claims 1,14,16,**Hatano Takahiro** (hereinafter **Takahiro**) discloses a display system for a handheld computing device, the display system comprising: a visual display having a communications transceiver (a detachable display) (see, fig.3 (9,1,7)); a processing unit having a communications transceiver and sending display data to the transceiver of the visual display (fig.3 (16, 14,15)); a first power source for the processing unit (fig.3 (17)); and a second power source for the visual display (fig.3 (3)), wherein the visual display is physically separable from the processing unit while displaying information according to communications from the processing unit between the visual display transceiver and the processing unit transceiver (see, DETAILED DESCRIPTION: [0005]).

Takahiro has failed to teach that the display unit is flexible and expandable. The patent of **Koenig** is cited to teach that it is well known for a display unit to be flexible and expandable (see, figs. 1-3). **Koenig** also teaches that the driver controls the display images based on the display size (current expansion of the display screen) ([0032], [0033]). It would have been obvious to one skill in the art to recognize that the display driver of **Koenig** can update the screen resolution base upon the current expansion of the display screen in order to view continues images.

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to have been motivated to use the flexible and expandable display system of **Koenig** into the display system of **Takahiro**, because this will allow the user to display multiple images simultaneously to provide more functionality.

As to claims 2 and 18, **Takahiro** also discloses that the visual display includes and a storage unit (fig.3 (4)) processing unit (CPU) (fig.3 (2)). **Takahiro** did not expressly state that the storage device is a random access memory (RAM). However, it is well known to use a RAM as a storage system.

In respect to claim 3, **Takahiro** disclose that the visual display CPU receives information over the wireless connection from the handheld computing device and stores the information in the visual display memory (see, page 3 of 5 [0012]).

As to claim 4, **Takahiro** also suggests that the information communicated from the processing unit to the visual display includes information necessary to display the current display image and information related to the current display image (see, page 3 of 5 [0012]).

As to claims 8 and 12, it is inherent for **Takahiro** display system to having input capabilities and the communications transceivers send and receive information using a custom wireless communication protocol.

In regard to claim 17, **Takahiro** discloses a processors power source (fig.3 (17)) and display power source (fig.3 (3)), but failed to teach that the display power source is lighter in weight than the processor power source. However, it would have been obvious to one skill in the art to recognize that the display power source has to be lighter than the processor display because since the display is a portable in order for the user to carry light weight display the power source has to be lighter than the (bas unit)

processor.

As to claim 19, **Takahiro** also teaches that the transceiver transmits information related to current display screen information to the display system to store in the display system memory while the current display screen information is being viewed (see, [0008], [0012]).

5. Claims 5-7, 20, 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nahi et al** (6,084,585) in view of **Hatano Takahiro** (JP 2001-091268) and **Koenig** (2002/0021258A1).

In regard to claim 20, Nahi discloses a computing system comprising a processing unit, the processing unit including a first processor, a first transceiver coupled to the first processor, a first memory coupled to the first processor, and a first power source coupled to the first processor. See figure 1 and column 6, lines 23-26, disclosing a "host computer system 14...utilizing a modest to high performance central processing unit (CPU)". Further see column 6, lines 56-59, disclosing, "The host computer system 14 preferably includes...and interconnect line 16 to an external transceiver 18." Further see column 3, lines 61-63, disclosing, "The computer system also includes a wireless data transceiver coupled to the processor". See column 1, lines 32-55, disclosing various operating systems and application programs for host computer system 14. Thus, a memory and a power source are inherent.

Nahi further discloses a first display unit, the first display unit including a first display area. See column 7, lines 61-63, disclosing, "A display table 20 is preferably constructed with...a display panel 32". The first display unit further includes a second processor, a second transceiver coupled to the second processor and communicating with the first transceiver, a second memory coupled to the second processor, and a second power source coupled to the second processor. Note column 9, lines 51-52, discloses, "A block diagram of the internal electronic control system 60 for a display tablet 20 is shown in FIG. 3." See figure 3, depicting main processor bus 62, short-range transceiver 88, main memory 66 and NVRam/Rom memory 68 and power controller 70. Note that short range transceiver 88, main memory 64 and NVRam/Rom Memory 68, and power controller 70 are all coupled to main processor bus 62.

Further see figure 1 and column 3, line 65 to column 4, line 3, disclosing, "The portable display tablet comprises...a low power wireless data transceiver providing short range data communication of the predetermined graphics and input data between the base computer system and portable display tablet". Thus, the transceiver of the display unit (second transceiver) communicates with the transceiver of the host computer (first transceiver).

Nahi further discloses a second display unit, the second display unit including a second display area, a third processor, a third transceiver coupled to the third processor and configured for communications with the first transceiver, and a third power source coupled to the third processor. See figure 1, depicting

display units 20a, 20b and 20c and the previous paragraph, disclosing the components of display unit 20.

Nahi further discloses that the first display unit and the second display unit may be interchangeably used. See column 4, lines 17-21, disclosing, "multiple portable display tablets can be utilized in conjunction with a single base computer system to separately and collaboratively provide access to applications executing on the base computer system."

Nahi does not disclose that the display system is interchangeably attached to and detached from a handheld computing device (processing unit). Although the display tablet is handheld, the processing unit is a host computer, and is thus not handheld. See column 21, lines 21-22, disclosing, "while the host computer system...has been described as stationery, the host computer system can, indeed, be mobile".

Hatano Takahiro (hereinafter **Takahiro**) discloses a display system for a handheld computing device, the display system comprising: a visual display having a communications transceiver (a detachable display) (see, fig.3 (9,1,7)); discloses a display system in which a processing unit communicates with a detachable visual display wirelessly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi by having the display system be interchangeably attached to and detached from a handheld computing device, as in the invention of **Takahiro**. One would have been motivated to make such a

change based on the teaching of **Takahiro** to provide for a new and a portable electronic device with a removable display for use in small handheld devices, thus allowing remote viewing of the display from the portable electronic device utilizing a wireless connection with the portable electronic device.

Nahi in view of **Takahiro** does not disclose that the visual display includes display screen that is flexible or expandable. In regard to claim 20, note that the figures of Nahi depict all of the displays as non-flexible. Nahi does not disclose that the second display unit is at least one of a flexible display unit and a foldable display unit.

Koenig discloses an adjustable display device that is flexible and foldable, thus expandable (see, figs. 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi in view of **Takahiro** by having the display (or the second display) be flexible and expandable, as in the invention of **Koenig**. One would have been motivated to make such a change based on the teaching of **Koenig** that such foldable, flexible displays have been developed, offering a small size for portability and a large display screen size for use.

In regard to claim 5, Nahi discloses that the information communicated from the processing unit to the visual display is web pages that have links in the current display. See rejections of claims 1-4. See column 12, line 59 to column 13, line 8, disclosing the

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transfer of data from the host computer 14 to a portable display tablet 20. See line 59 of column 12, disclosing, "a Web browser application is a preferred example". Data from a web browser inherently includes web pages with links. Further see the description of the related art, which discloses that the present invention is designed for web and internet applications.

In regard to claims 6 and 7, see rejection of claim 5. Data in a web browser application inherently includes contents of drop down menus and images associated with thumbnail images.

As to claim 22, see the rejection of claim 17 above.

In regard to claim 23, Nahi discloses that the first display unit is a ruggedized display unit. See column 7, lines 61-63, disclosing, "A display tablet 20 is preferably constructed with a plastic case 30 housing display panel 32". Further see column 8, lines 3-5, disclosing, "the display panel 32 is...reasonably sturdy when and as mounted within the case 30". Thus, display tablet 20 is a ruggedized display unit, as best understood, due to plastic case 30.

In regard to claim 24, Nahi discloses an invention similar to that which is claimed in claim 24. See rejection of claim 20 for similarities. Further see column 7, line 64 to column 8, line 3, disclosing, "The display panel 32 is preferably an active matrix liquid crystal display (LCD) or dual-scan super-twist nematic display suitable for rendering color images at a resolution of about 640.times.480 pixels or greater. Low cost display panels 32 with reduced resolutions and only monochrome display capabilities can also be utilized."

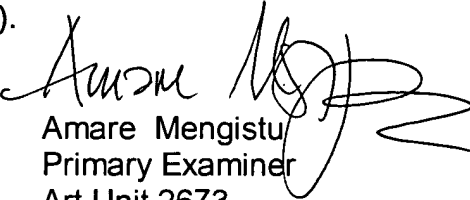
Response to Arguments

6. Applicant's arguments with respect to claims 1-8,12,14,16-20,22-24 have been considered but are moot in view of the new ground(s) of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amare Mengistu whose telephone number is (571) 272-7674. The examiner can normally be reached on M-F,T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amare Mengistu
Primary Examiner
Art Unit 2673

AM

Jan. 19,2006